TADLOCK (A.B.)

RUPTURED PERINEUM.

Operation--Inclined Elliptical Suture.

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"Of all the accidents attending delivery there is none more common than partial, and none more rare than complete, laceration of the perineum."—*Swayne.* "It certainly is true that the accident is a reproach to surgery, many eminent surgeons *had abandoned* the hope of giving effectual relief"—*Barnes.* Mrs. C. æt. 25, from the state of Arkanses, placed herself in my care April 3rd, 1872, for operation and treatment for complete rupture of the perineum, and laceration of the rectum, occasioned by the birth of her first child, on the 17th of the previous November—a physician being her accoucheur. Constitutionally she was of a nervous temperament, slender in form, and possessed an unusually narrow pelvis in the antero posterior diameter. The injury and malarial influences had conspired to greatly impair her health, so that she presented quite a cadaveric appearance, with a rapid and weak pulse. Had no control over bowel emissions, whether gaseous or fecal; menstrual flux had not made its appearance since the birth.

April 6th. Having previously instituted a thorough examination to make certain of the extent of the injury, and condition of the cervix uteri, with Doctors McIntosh and Baily present, I closed the wound by first revivifying the rectal and perineal cicatricial edges, and then coaptating the rectal fissure with three interrupted sutures, ligated on the inner side of the gut, two deep, and three superficial interrupted stitches, closing the perineal triangle. For the rectal and superficial I used surgeon's silk, for the deep, hempen cord. With the exception of a con-

siderable loss of blood from the hemorrhoidal vessels, nothing unpleasant attended either the operation or the administration of the chloroform. Her nervous and emaciated condition rendered it impossible to secure favorable quietude during after treatment, which consisted of opium to control the bowels, with quinine and other medicines to meet constitutional manifestations, and carbolized water washes. April 15th, stiches all removed, and on the 18th, bowels evacuated, aided by a saponaceous clyster.

Result.—Upper four-fifths of the fissure of the rectum successfully united, with, however, only a small frenum of perineal union at the posterior commissure of the vulva, thus leaving a large fistula or rather perineo-vaginal "cloaque." But there were very apparent advantages gained, for the patient soon perceived that she could control the bowels so as to enhance greatly her comfort and safety in company. This was a very important advantage, for it enabled her to pass the interim necessary to establish better health for the second operation more patiently, and with much more satisfaction. She remained in East Tennessee during the summer visiting friends in the country, and attending Lee's Springs, and returned on the 18th of September with health greatly improved, ready and anxious for the second operation.

September 19th. Present Drs. Baily, Jas. Rodgers and Moses. On account of the proximity of the parts, rendered so by the frenal union alluded to above, (the preservation of which was thought desirable,) paring and stitching were made much more difficult and tedious. Careful vivisection of the entire cloacal circumference being made, three ligatures, each composed of silver wire with a thread of silk, with the quill, were used for the deep sutures. Three superficial interrupted stiches of surgeon's silk, and a band of adhesive plaster, three inches wide by eighteen long, applied across the nates, completed the operation, having had but very little hemorrhage. No untoward symptom, and but little suppuration followed, so that but little treatment was required save to confine the bowels, and keep the parts internally and externally washed with a weak solution of liquid chlorinat, the patient being much more manageable than previously. The stitches were removed on the 10th day, and bowels cleared on the 15th, by an enema and the administration of castor oil, union being complete and satisfactory. Oct. 1st discharged cured.

We regard the introduction of the anal or posterior perineal suture as the most important part of the operation, though paring should be done effectually with the utmost care and patience. For this stitch we use a needle quite long and very crooked so as to make the entire circuit beneath the tissues with one sweep, passing just over or through the rectal walls. In the case reported the needle was thought to have penetrated the hollow of the bowels and that without any unfavorable consequences. As a certain guide for the point of the needle we use the end of the index finger, considering it indispensable for properly locating the track of the suture, both as to direction and depth beneath the tissues. Instead of the usual horizontal mode of passing the stitches, we are of the opinion that in taking this, the first stitch, it would be better to select positions posterior to the fundamental base of the wound, for the points of the ingress and egress of the needle, say just behind a line crossing centrally the anal orifice. The track of the suture, with its points thus located, forms an ellipse, the base of which being elevated and acting as a fulcrum, causes the depressed arms or extremities of the suture attached to the quills to draw forwards and upwards, just in the proper direction to restore the freed ends of the ruptured sphincter to their locus in propria. Thus with the *oblique elliptical suture* additional importance attaches to the quills, besides affording even pressure and firmer coaptation of the parts. The other deep stitches, the length of the perineum determining the number required, should be located parallel to the first, and, in clearing the interval or vaginal rent, should include a small marginal portion of the vaginal mucous membrane. The application of the quills is easy, but the degree of traction for coaptating the segments of the wound should be carefully scrutinized, lest it should be insufficient for plastic affinity, or too great for free capillary circulation. We regard the perfect exclusion of air essential to adhesion by first intention, and therefore would rather venture too many than risk too few superficial sutures.

As to the cause, prevention and cure of the injury in question, a review of its history shows the very antipodes of medical discrepancy. Even the hygiene of the gestating woman, preparatory for safe and easy delivery, entirely fails in anything like harmony of opinion. The theory of supporting the perineum

during the passage of the child's head has authority of high distinction pro and con. In cases where the danger of rupture is imminent, and the occurrence seemingly unavoidable, some propose diverting by incision the threatened centero-perineal to a latero-perineal laceration, the propriety of which we question. Then the levator and transverse muscles, or their tendons, would necessarily be divided, and consequently, instead of the symmetrical antagonism of two symmetrical parts which we would have to overcome in an operation for central lesion, in the lateral or superinduced rupture, we would have to contend with distorted parts, and the most discordant muscular contractions. Had nature adopted the lateral, we believe a diversion to a central would have been claimed as a crowning feat of surgery, and the accoucheur who failed to secure the diversion would, no doubt, have been condemned with unmitigated upbraidings.

Again we have the most contradictory statements as to the possibility of a successful union without surgical interference. In recent cases not involving the sphincter, Dr. Byford says "it will not be best to use sutures or other surgical measures;" but if the sphincter should be ruptured, he asserts that an operation would be indispensable to a cure. Thomas says it is "not at all likely to undergo a spontaneous cure," if the sphincter ani be involved. That those lesions which do not entirely sever the sphincter may heal, generally without surgical treatment, and generally, "none which converts the two passages into one will do so." Other eminent authors express the same views. And then we have cases reported by good authority of rupture, unmistakably involving the perineum, sphincter, and rectum cured spontaneously by approximating the knees and keeping the patient to a side position for a few days, with bowels confined. Such a case is reported in Braithwaite by Arthur Taylor of Kingsdale. These opinions have their practical and theoretical significance. Practical in that to the unfortunate woman, even situated in the country, distant from surgical aid, the possibility of an escape from weeks of a miserable existance, and the horror of a dreadful surgical operation, offers comforting hope in misfortune. Theoretical, because of its bearing upon the cruel practice of the "liberating incisions," advocated by Brown, Dieffenbach, and others, but justly condemned by Sims, Agnew, Barnes, and others; and this brings us

to a part of our subject which we have ventured to examine critically and independently, yet respectfully. Anatomically we have five muscles concerned in this most important operation—namely, the coccygeus, two transverse, levator, and sphincter, which are arranged so as to form a hopper-like base for the pelvis. Functionally the sphincter acts in the capacity of a janitor at the anal orifice, while the levator forms the body of the hopper, and has the other three situated in a tripod arrangement around and outside to strengthen, guide, and maintain it in a central and most economical relation when filled and sustaining a downward pressure. Now we maintain that the action of all these muscles, except the sphincter, taken altogether with their original and fixed extremeties all higher, that their attachments tend to elevate and withdraw rather than depress and protrude the anal parts; nevertheless Dr. John Hilton, F. R. S., recommends their division to allow the pelvic viscera to recede into the pelvis for the effectual cure of prolapsus and lacerated perineum. This procedure, it seems to us, would only want a circular incision of the integument to complete the distruction of all support anatomically provided for the pelvic viscera, and, instead of the natural retractive force of the muscles, an artifical support in the way of a bandage would be the only alternative. Had the occurrence of prolapsus been coincident with paralysis of these muscles, Hilton possibly would have sought no other cause than the paralysis to account for the displacement. And as for the lesion in question, we think the presence of the levator muscle the greatest auxiliary to success in an operation, for its tendency is to hold up and retain both sphincter, skin, and soft parts in their most favorable and natural position for proximation and union.

We will next scrutinize the philosophy of dividing the sphincter. This muscle, we know, is controlled by two forces—the nervous-reflex, or involuntary, and the supplemental, or voluntary. The one being subject to the will, needs only the restraint of the judgment, and no surgical interference, and the other, fortunately, but gives warnings of conditions, such as the presence of fecal or gaseous matters, which can be previously provided for by thorough evacuation. Hence the normal tendency of this muscle is to relieve itself of tension, and maintain inertly one and the same degree of caliber, whose cir-

cumference would be the same if divided into fifty arcs, and yet by virtue of the supplemental force resident in the sphincter itself, aided by volitionary efforts through other muscles, as the gluteal, femoral, respiratory, and abdominal, the anal orifice may be lessened to retain, or dilated to discharge rectal contents. Besides, the contractions of the other three (guiding) muscles, the coccygeal and two transverse, are synchronous with, and the result of extending forces applied at either or both their extremities, meaning resistence to the consequent tension, whether that tension be due to centripetal traction, caused by depression of the anal paries, as in expulsive efforts, or to centrifugal traction, the result of separating the thighs and buttocks, as is the case in the defecating position, or that of horseback-riding. Now is it reasonable to suppose that we have not, within the purview of our judgment and volition, sufficient control over the conditions out of which arise these muscular forces to not only maintain them in their most relaxed state, but to forcibly coaptate the parts by position, and mechanical appliances to the extremities, and hips without the "liberating incisions?" Have we not ample mechanical means for even more than restoring the parts to a coaptation favorable for union? We are not here considering those abnormal conditions of muscular contractions, such as tetanus, nor do we propose to make provisions for such anomalies, for if such should be the condition of the patient, the operation should be postponed.

Now if these dissections were simply useless and void of material injury, merely for the sake of dextrous manipulation and surgical display, they might be less objectionable, but if besides being useless they are injurious, for the sake of surgical skill and respect for our patient let them be avoided. Let us examine:—It will be remembered that contraction of the three guiding muscles in truth means lengthening of their fibres instead of shortening, for their action is simply the expression of a force to regulate or avoid extension, and contraction, or the effort to shorten and maintain the vis inertiæ, is a response to the condition of actual extension, which may be entirely independent of any change in the sphincter, but dependent upon voluntary or involuntary mandates, as explained above. Thus it follows that if these be divided we loose a support which is so very essential that the authors and advocates of the liberating methods all

recommend a T bandage support,—I suppose as a substitute for the natural one destroyed. Strange it seems that we have no evil results recorded of these indiscriminate dissections around the coccyx, often cutting and wounding no doubt the periosteum, or of those barbarous gashes severing the soft parts latterally, or of those outlandish deeds of thrusting a bistoury into the rectum two inches, and cutting outwards and backwards between the ischii and end of the coccyx two inches deep, thus blindly dividing bloodvessels, nerves, and muscles. If it were not for the admonitions of modesty, such practice might do for the dissecting room in practicing on the cadaver, but the illustrious Sims, Emmet, and others of this country have practically and successfully introduced a different surgery for the living. Every woman in the land owes a debt of gratitude for the happy and opportune escape of her sex in such fearful distress and suffering afforded by this improvement, as well as in many others of our surgical art and theory of the nineteenth century. We then contend that we have in accommodating positions and mechanical means ample resources for all coaptating purposes, and for maintaining the integrity of that coaptation during the healing process, without resort to any of the "liberating incisions." For the same reasons, without better evidence of the utility of and necessity for it, we would decline the late complicated method of cutting and skinning and patching, styled by the author the "modified operation," for the cure of ruptured perineum.

As to the amount of tissue to be removed in freshening the surfaces, Erichsen says the "edges and sides of the rent must be freely and *deeply* pared;" Agnew, that "paring should not extend deeply, but should involve a portion of the labia and vaginal mucous membrane," Lane and Duncan both recommend the removal of a long tape like piece of integument about half an inch in breadth. Individual preferences for the use of the knife or scissors no doubt depend upon this discrepancy of opinion, one being better adapted for shallow, the other for deep dissections. In the case reported we used the scissors, and wasted as little tissue as possible, making the most delicate tonsiles, believing that the sensitive and vascular character of the cuticle and tissue near the surface offered the best facilities for plastic union. Indeed, if it were not for this physiological character peculiar to the integument, we doubt the probability

of union by first intention. We think the cicatricial surface furnishes a better guide as to the extent of surface to be removed than any theoretical lineal admeasurement. It will differ in individual cases as much as the pelvic diameters and capacites differ. Nearly all agree in commencing at the posterior of the rent and cutting or trimming forwards towards the fourchette so as to the better avoid embarrassments from the blood. The natural length of the perineum, or rather the actual length of the lesion, should determine the number of stiches, both deep and superficial. We believe there is more danger in introducing too few than too many. For fastening the sutures Agnew prefers the shot; Barnes recommends Brook's beads; some the serres fines of Vidal; while Sims and Emmett declare in favor of the simple interrupted method. However, to meet the objects and aims of the antero-inclined elliptical stitch, as herein described, the quill suture is indispensable. All except Byford, I believe, introduce the first suture nearest the rectal mucous membrane. In the after treatment nearly all confine the bowels for the first ten or twelve days. Furgusson, however, kept them open with injections. Some surgeons prefer nutritious diet, others light and farinaceous. A few leave the catheter in situ; most all use it as required by nature's demands. Various applications are made to the parts. The time for the removal of the stitches varies from thirty-six hours to ten or twelve days, according to the views of writers. Early removals are rather the practice of latter days. Madden, of Dublin, usually removes them in from thirty-six to sixty-four hours. His success, however, does not appear the most encouraging.

Position we consider as of paramount importance in the after treatment, for we have an advantage in it without stitching, myotomy, or incisions, which will more than compensate for the separation and displacement of the parts, as is verified by examples of spontaneous union, and may be proven by a little experiment on ourselves to find the degree of available force for approximation. The true position indicated seems to be supination, with legs extended and crossed below the knees. Were it not for the difficulty of maintaining favorable quietude for so long a time immediately after the injury, with the woman in this position, aided by the adhesive straps above alluded to, we doubt

not the probability of a satisfactory union, without resort to any surgical proceedure save to eliminate the urine and attend to the bowels. However, to favor the discharge of the lochia, which Trogher, of Vienna, and others think would seriously interfere with successful union immediately after the accident, and prevent its viciating effects on the plastic material, it might be better to waive the dorsal position, and take the semi-prone, with the legs crossed as before. Assequi et sequi natural consilia conare.

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